ABSTRACT

METHOD AND STRUCTURE FOR AN OXIDE LAYER OVERLYING AN OXIDATION-RESISTANT LAYER

A method used during the formation of a semiconductor device such as a flash memory device comprises the steps of forming a floating gate layer over a semiconductor wafer substrate then forming a first oxide layer over the floating gate layer. An oxidation-resistant layer such as a nitride layer is formed over the first oxide layer wherein a first portion of the oxidation-resistant layer oxidizes more readily than a second portion of the oxidation-resistant layer. To accomplish this the first portion of the oxidation-resistant layer can be formed to have a higher silicon concentration than the second portion. The first portion of the oxidation-resistant layer is oxidized to form a second oxide layer and a control gate layer is formed over the second oxide layer. An in-process semiconductor device is also described.